Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method of generating a dither code, comprising:

a) generating a first short code by dithering a reference code according to a dither pattern;

b) generating a second short code by dithering the reference code according to the dither pattern, wherein the code phases of the first and second short codes are different from each other;

c) repeating a) and b) a predetermined number of times; and

d) outputting in sequence the short codes generated in a) through c) as the dither code, wherein the dither pattern repeats after a) and b) are repeated the predetermined number of times.

2. (original) The method according to claim 1, wherein the dither pattern changes the length of the reference code according to a predetermined pattern.

3. (original) The method according to claim 1, wherein the dither pattern changes the phase of the reference code according to a predetermined pattern.

4. (original) The method according to claim 1, wherein using the dither pattern in a) through c) results in the dither code having an optimal autocorrelation characteristic.

5. (original) The method according to claim 1, wherein the reference code is a pseudonoise code.

6. (original) The method according to claim 5, wherein the dither code is a stationary dither code.

7. (original) The method according to claim 6, wherein the dither pattern is a predetermined fixed pattern.

8. (canceled)

9. (original) A method of generating a composite code from M instances of a reference code that has a reference phase, where M is an integer, the method comprising:

a) selecting an (N-1)th code generated from the reference code, the (N-1)th code having an (N-1)th phase position, where N is an integer less than M;

b) selecting an Nth code generated from the reference code, the Nth code having an Nth phase position that is different from the (N-1)th phase, and determining a vector V between the (N-1)th code and phase and the Nth code and phase;

c) adding the vector V to the (N-1)th code and codes generated prior to the (N-1)th code to determine disallowed code points; and

d) selecting a (N+1)th phase for a (N+1)th code from among code points other than the disallowed code points.

10. (original) The method of claim 9, further comprising repeating a) through d) and incrementing N until N+1=M.

11. (currently amended) An apparatus for generating a composite code, comprising:

a clock oscillator outputting a clock signal;

a controller coupled to the clock oscillator, counting in response to the clock signal, and generating a control signal based on the count and indicating a dither amount; and

a code generator coupled to the controller and generating a code dithered in response to the control signal, wherein the controller generates the control signal to indicate an amount of dither for the generated code so the phase of the generated code is different from the preceding code generated by the code generator, and wherein dither is repeated a predetermined number of times.

12. (original) The apparatus of claim 11, wherein the dither amount indicates a length of the code to be generated.

13. (original) The apparatus of claim 11, wherein the dither amount indicates a phase rotation amount of the code to be generated.

14. (original) The apparatus of claim 11, further comprising an transmission unit for transmitting the dithered code generated by the code generator.

15. (original) The apparatus of claim 11, wherein the controller generates the control signal to control the code generator to produce the composite code to have an optimal autocorrelation characteristic.

16. (original) The apparatus of claim 11, wherein the reference code is a pseudonoise code.

17. (original) The apparatus of claim 11, wherein the controller determines the amount of dither indicated in the control signal from a dither pattern.

18. (original) The apparatus of claim 17, wherein the dither pattern is fixed in length and repeats.

19. (original) A transmission signal, comprising M codes each having a phase dithered with respect to a reference code, wherein the phases of the M codes are dithered according to a dither pattern.

20. (original) The transmission signal of claim 19, wherein the phases of the M codes are dithered by varying the lengths of the M codes according to the dither pattern.

21. (original) The transmission signal of claim 19, wherein the phases of the M codes are dithered by rotating the phase of the reference code according to the dither pattern.

22. (original) The transmission signal of claim 19, wherein the M codes are dithered so that the transmission signal has an optimal autocorrelation characteristic.

23. (original) The transmission signal of claim 19, wherein the dither pattern is fixed in length and repeats.

24. (original) The transmission signal of claim 23, wherein the dither pattern is such that a vector difference between any two of the M codes is not repeated among the M codes.

25. (original) The transmission signal of claim 24, wherein the reference code is a pseudonoise code.